PATENT

DOCKET NO. 10013.0005US

AMENDMENTS TO THE SPECIFICATION

Kindly amend the specification as follows:

Please replace paragraph [0050] with the following paragraph, amended as indicated herein:

[0050] Each through passage may have any suitable dimension or geometry. It can be formed as a simple hole in the ~~portioning~~ partitioning wall or as an elongated via channel or via. Depending on the intending application, the length and width of each through passage can be varied. For example, if the device is used to study cell motility in blood capillaries in which there are gaps between endothelial cells of the blood capillaries, the dimensions of the through passage can be designed to simulate the dimensions of such gaps, which are in the range of about 0.2 to 30 μm, for example. Where the motile behavior of large cells is to be studied (e.g. mammalian egg cell), the width of the through passage may be correspondingly bigger. The length of the through passage can likewise be varied. Contemplated through passage lengths may range from 50-1000 μm. If only the minimum width a particular cell type can "squeeze through" is of interest for instance, the length of the through passage can be made small. If the migration velocity is to be determined, then a longer through passage may be used. The height of the through passage can be within 10 to 60μm, but is not limited to and thus can be smaller or larger, if desired. It is noted that it is possible to have through passages having identical or different dimensions (e.g. different width of the passage and/or different length) within the same device.

Please replace paragraph [0076] with the following paragraph, amended as indicated herein:

[0076] The inventive method is carried out by simulating the above mechanism in a device of the invention, a liquid medium (e.g. a cell nutrient medium or blood plasma) and a test sample containing cells which are to be studied, are introduced into the device of the invention. By exerting hydrostatic pressure on the test sample (e.g. by elevating the cell reservoir), or by the use of an actuator such as a pump, the cells can be delivered into the cell channel. As the cells are moved through the channel(s), some cells will attach to the walls of the channel, while other cells which do not attach themselves to channel walls are washed away as the fluid medium

flows out through the outlet. The attachment of cells to the channel wall marks the beginning of cell migration. Cells near to the entrance of the through passage may alter their form, e.g. by acquiring a flat shape, to enter the through passages. Some cells that are attached further away from the entrance of the through passages may also move towards the entrance of the through passages. Within the through passage, cells continue to move towards the end of the through passage by extending its cytoskeleton forward. In this way, the cells finally migrate through the through passage into the adjacent channel. During the entire duration when the cells are in the device, cell migration and/or deformation can be studied in detail.